In addition to the "spin-offs" described in this document, fusion research is contributing in two areas that, while difficult to quantify, represent a valuable and continuing return on the nation's investment in this program.

In the area of education, students and researchers trained in the U.S. fusion program often go on to jobs in allied high-technology fields, where they apply knowledge gained from fusion to supporting and extending America's technology base. In addition, as part of the Department of Energy's mission of science education, students at all educational levels can participate in fusion-related programs designed to stimulate their creativity and interest in science.

In the area of international relations, the Department of Energy has fostered and profited from an extensive program of international collabora tion. The principal element of this program is a project called the Inter national Thermonuclear Experimental Reactor (ITER). The ITER Engineering Design Activities—which are being carried out by the United States, the European Community, Japan, and the Russian Federation—represent a large-scale, international science project. Each of the four parties contributes to and benefits from this six-year project (1992–1998) to design an experimental fusion facility whose mission is to demonstrate the scientific and technological feasibility of fusion. Through cooperation, each party reduces its cost and is able to benefit directly from the work of the world's most creative fusion researchers.

Information on mechanisms for transferring the skills and technol ogies developed in the national fusion program to industry is presented in the next section of this document. Technology transfer con tacts are listed, and a table shows the areas of expertise represented by research institutions supported by the Department of Energy's fusion program.

Fusion's contributions to a variety of areas are described in the final section of this document. The information presented here describes how the products of fusion science and technology are being or can be applied by U.S. industry to issues of national importance, which are identi fied by the graphic elements at right.

Some of these applications have already been transferred to industry or are ready for transfer. These con tributions are identified by dark blue shading over the name of the issue to which they apply. Some with clear potential for industrial application are candidates for additional develop- ment; these are identified by medium blue shading. Finally, technologies that appear to have promising appli cations beyond fusion but still require considerable development are identi fied by light blue shading.

The Department of Energy and its fusion research institutions welcome inquiries about fusion research, fusion technology spin-offs, or the potential of fusion to become part of the long-term solution to the world's need for energy.

Products of Fusion Science and Technology Are

Commercially Available or Ready for Development by Industry	Exciting Candidates With Clear Potential for Industrial Applications	Promising Candidates for Further Development